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I, JANENE PEISKER, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2004900632 for a patent by HILTIVE PTY LIMITED as filed on 11 February 2004.



WITNESS my hand this
Eighteenth day of February 2005

A handwritten signature in dark ink, appearing to read 'J. Peisker'.

JANENE PEISKER
TEAM LEADER EXAMINATION
SUPPORT AND SALES

AUSTRALIA

Patents Act 1990

COMPLETE SPECIFICATION STANDARD PATENT

APPLICANT: HILTIVE PTY LIMITED

Invention Title: BUILDING ASSEMBLY COMPONENT

The following statement is a full description of this invention, including the best method of performing it known to me:

"BUILDING ASSEMBLY COMPONENT"

Technical field

5 This invention relates to a building assembly component.

The invention has particular application to a building assembly for and method of fastening cladding panels to building frames, and to a jointing element for use in such an assembly and method.

10 Background of invention

A variety of methods and assemblies are known for fastening cladding panels to building frames. One such method and assembly is described in our International Patent Application PCT/AU01/01119, the description of which is
15 incorporated herein by reference.

For ease of reference the fastening assembly of this earlier application is illustrated in FIG 1 herein. Elongate jointing elements in the form of a channel 12 having laterally extending flanges 17 are fixed to a building frame 11 by screws 13. Sealing gasket 14 has a pair of ribs 16 extending laterally either
20 side of channel 12 and is fixed between channel 12 and frame 11. A cover strip 15 is fixed to channel 12 to cover channel portion 22. Cladding panels 10 with slots 18 along the edges are retained in position against the building frame with flanges 17 extending into slots 18.

25 Summary of Invention

The present invention aims to provide an alternative to known building assemblies and methods, and to components for use therein.

In one aspect this invention resides broadly in a jointing element for
30 supporting a plurality of cladding panels relative to a building frame, the panels having slots extending along the edges thereof, the jointing element including:-

an elongate support member substantially H shaped in cross-section and having a longer inner flange for fastening to the building frame, the inner flange being connected by a web to a shorter outer flange to form an elongate recess on each side of the web, and

5 sealing means positioned in the recesses;

whereby when a cladding panel is supported relative to the building frame by the jointing element, the outer flange is received in the slot along the edge of the cladding panel and the sealing means cooperates with the panel to substantially seal the space between the building frame and the cladding panel
10 against the ingress of moisture.

In another aspect the invention resides broadly in a method of fastening a plurality of cladding panels to a building frame, the panels having slots extending along the edges thereof, the method including:-

fastening to the building frame a jointing element, the jointing element
15 having an elongate support member substantially H shaped in cross-section and having a longer inner flange for fastening to the building frame, the inner flange being connected by a web to a shorter outer flange to form an elongate recess on each side of the web, and sealing means positioned in the recesses, and

20 supporting a cladding panel relative to the building frame with the outer flange of the jointing element received in the slot along the edge of the cladding panel and the sealing means cooperating with the panel to substantially seal the space between the building frame and the cladding panel against the ingress of moisture.

25 It is preferred that the support element is an aluminium extrusion.

It is also preferred that the web is substantially centrally disposed and the longer inner flange extends at each side thereof beyond the ends of the shorter outer flange sufficiently to allow screws to be fixed therethrough for fastening the support member to the building frame.

30 It is preferred that the sealing means is an elongate gasket located in each recess.

It is also preferred that the gasket includes longitudinally extending rib means and a longitudinally extending end portion such that on assembly when the outer flange is received in the slot along the edge of the cladding panel, the rib means resiliently engages the inner surface of the cladding panels and the
5 longitudinally extending end portion resiliently engages the inner edge of the cladding panel adjacent the slot.

Description of Drawings

In order that this invention may be more easily understood and put into
10 practical effect, reference will now be made to the accompanying drawings which illustrate a preferred embodiment of the invention, wherein:-

FIG 2 is a cross-sectional view of a vertical jointing element showing the gaskets removed therefrom;

FIG 3 is a cross-sectional view of a horizontal jointing element showing the
15 gaskets removed therefrom;

FIG 4 is a cross-sectional view of the vertical jointing element showing one of the gaskets positioned in a recess, the jointing element being attached to a building frame, and showing a cladding panel to be assembled, and

FIG 5 corresponds with the view of FIG 4 and shows the cladding panel
20 assembled with the jointing element.

Description of Preferred Embodiment of Invention

As can best be seen in FIG 4, the jointing element 40 has an elongate support member 20 in the form of an aluminium extrusion which is substantially H-
25 shaped in cross-section and is fastened along one longer flange to a building frame 11 by screws 34. A pair of elongate gaskets 30 (of which only one is shown in FIG 4) are positioned in opposite elongate recesses in support member 20. Cladding panel 10 has slots 18 along the edges and as seen in FIG 5 is supported relative to building frame 11 with the other (outer) flange of support member 20
30 received in slot 18. The cooperation of the edge of cladding panel 10 with gasket 30 effectively seals the space between building frame 11 and the cladding panel against the ingress of moisture.

Turning to FIG 2 it can be seen that support member 20 is substantially H-shaped in cross-section and has one longer flange 21 connected to a shorter flange 22 by a central web 23 with a pair of elongate recesses 24 and 25 being formed on opposite sides of web 23. The sides of longer flange 21 extend beyond the side edges of shorter flange 22 forming a pair of lands 26 and 27 through which jointing element 40 can be screwed to building frame 11 as previously described.

Elongate gasket 30 is somewhat L-shaped in cross-section with a pair of ribs 31 extending from one arm 32 of the L-section and constituting longitudinally extending rib means, and the other arm 33 of the L-section constituting a longitudinally extending end portion. Gasket 30 is slightly oversize with respect to recesses 24 and 25 and being resilient, forms an interference fit when inserted therein.

As seen in FIG 5, when cladding panel 10 is fully positioned on jointing element 40, the rib means 31 resiliently engage the inner surface of the cladding panels and the longitudinally extending end portion 33 resiliently engages the inner edge of the cladding panel, thereby effectively sealing the space between building frame and the cladding panel against the ingress of moisture. Cooperation of this inner edge of cladding panel 10 with the resiliently compressible end portion 33 of gasket 30 allows for thermal expansion of the cladding panel due to seasonal temperature fluctuations.

The jointing element of the present invention and building systems and methods utilising the element have a number of advantages over known systems.

For example in comparison with the product described in FIG 1, assembly of the various components in the building system is much simpler with a single component (jointing element 40) being fastened to the building frame, rather than positioning gasket 14 behind channel 12 which is then being fastened to frame 11 and cover strip 15 then fixed over the channel.

Another advantage of the present arrangement is that manufacture of the cladding panel is simplified. Although cladding panel 10 in FIG 1 is shown with the lips forming slot 18 being of equal length, in practice it has proved

necessary to cut back the innermost lip to allow for thermal expansion and avoid buckling of the panel in the event that the inner lip were to engage the wall of channel 12 upon expansion. In the present invention the two lips can remain equal, thereby obviating one operation in manufacture of the panels.

5 It will of course be realised that whilst the above has been given by way of an illustrative example of this invention, all such and other modifications and variations hereto, as would be apparent to persons skilled in the art, are deemed to fall within the broad scope and ambit of this invention as is herein set forth.

The claims defining the invention are as follows:-

1. A jointing element for supporting a plurality of cladding panels relative to a building frame, the panels having slots extending along the edges thereof, the
5 jointing element including:-
 - an elongate support member substantially H shaped in cross-section and having a longer inner flange for fastening to the building frame, the inner flange being connected by a web to a shorter outer flange to form an elongate recess on each side of the web, and
 - 10 sealing means positioned in the recesses;
 - whereby when a cladding panel is supported relative to the building frame by the jointing element, the outer flange is received in the slot along the edge of the cladding panel and the sealing means cooperates with the panel to substantially seal the space between the building frame and the cladding panel
15 against the ingress of moisture.
2. A jointing element as claimed in Claim 1, wherein the support element is an aluminium extrusion.
- 20 3. A jointing element as claimed in Claim 1, wherein the sealing means is an elongate gasket located in each recess.
4. A jointing element as claimed in Claim 3, wherein the gasket includes longitudinally extending rib means and a longitudinally extending end portion
25 such that on assembly when the outer flange is received in the slot along the edge of the cladding panel, the rib means resiliently engages the inner surface of the cladding panels and the longitudinally extending end portion resiliently engages the inner edge of the cladding panel adjacent the slot.
- 30 5. A jointing element as claimed in Claim 2, wherein the web is substantially centrally disposed and the longer inner flange extends at each side thereof

beyond the ends of the shorter outer flange sufficiently to allow screws to be fixed therethrough for fastening the support member to the building frame.

6. A method of fastening a plurality of cladding panels to a building frame, the panels having slots extending along the edges thereof, the method including:-

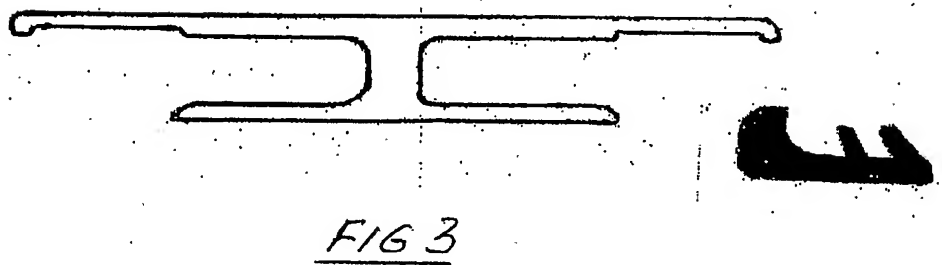
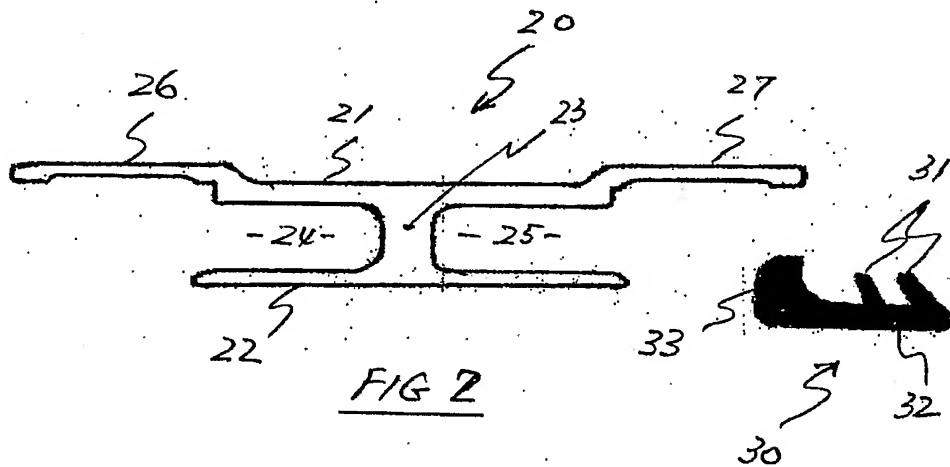
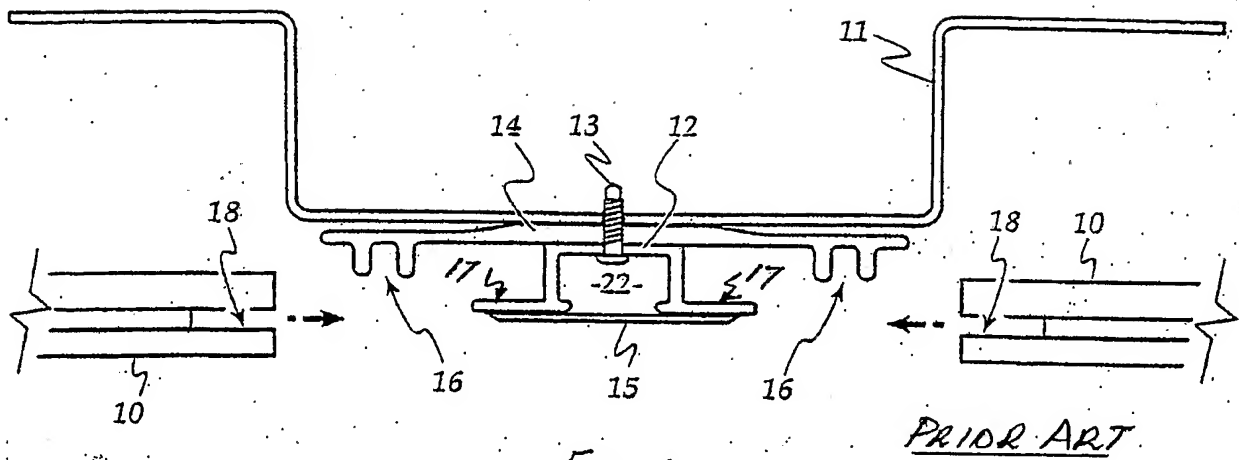
fastening to the building frame a jointing element, the jointing element having an elongate support member substantially H shaped in cross-section and having a longer inner flange for fastening to the building frame, the inner flange being connected by a web to a shorter outer flange to form an elongate recess on each side of the web, and sealing means positioned in the recesses, and

supporting a cladding panel relative to the building frame with the outer flange of the jointing element received in the slot along the edge of the cladding panel and the sealing means cooperate with the panel to substantially seal the space between the building frame and the cladding panel against the ingress of moisture.

7. A jointing element substantially as described with reference to the embodiments illustrated in the drawings.

8. A method of fastening cladding panels to a building frame substantially as described with reference to the embodiments illustrated in the drawings.

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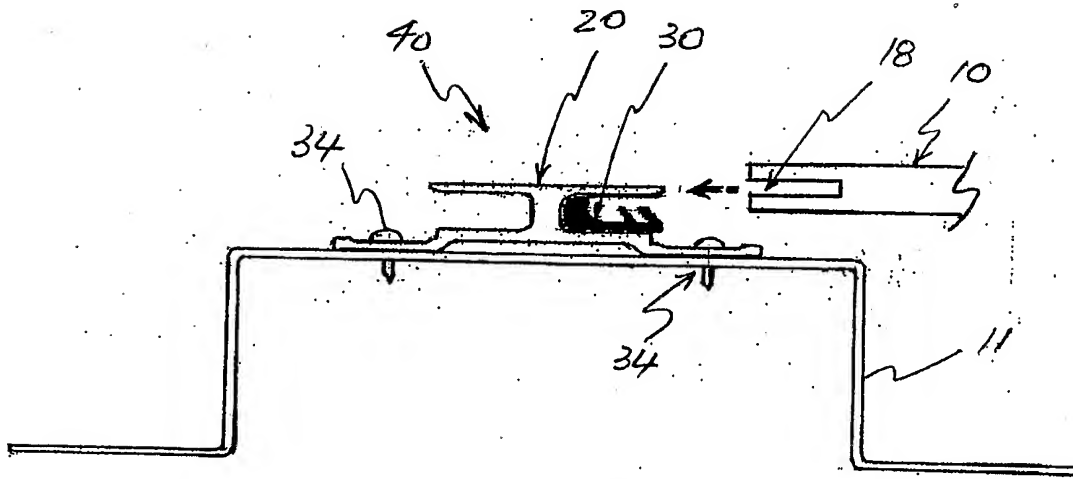


FIG 4

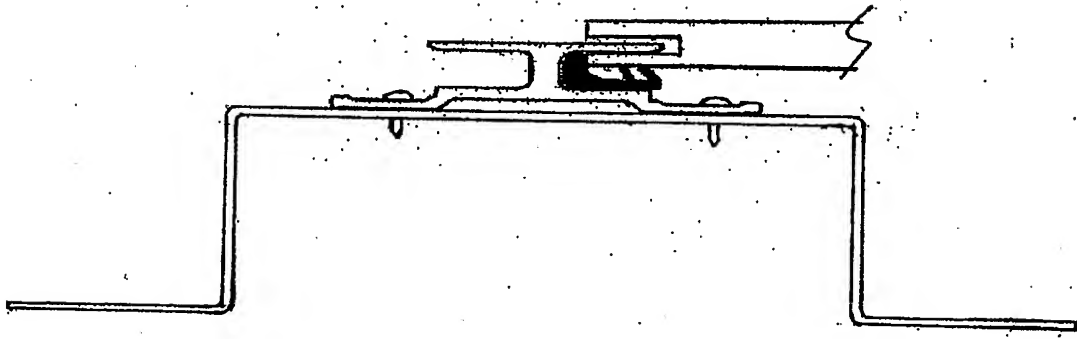


FIG 5